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A Systematic Study on the Korean Anthozoa 12. Order Scleractinia

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韓國產 珊瑚蟲類의 系統分類學的 硏究
12. 돌산호 목

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적 요

한국산 산호충류 중 돌산호류의 계통분류학적 연구를 하기 위하여 1969년부터 1986년까지 우리나라의 삼면연안과 도서지방(35개 지역)으로부터 채집된 표본들을 동정 분류하고 지리적 분포도 고찰하였다. 그 결과 5아목 7과 15속 24종이 밝혀졌으며 이 중에서 7종은 한국미기록종이었다.

한국산 돌산호류를 분포형으로 보면 열대형(16종, 66.7%)과 온대형(8종 33.3%)으로만 되어있고, 해역별로 보면 제주도 해역에 16종(4온대종, 12열대종)으로 가장 많은 종이 분포하였으며 황해에 3종(2온대종, 1열대종)으로 가장 적은 종이 분포하였다. 해역간 유사계수를 근거로 보면 대한해협과 동해 사이의 유사성(0.596)이 가장 크고, 황해와 제주도해역 사이의 유사성(0)은 전혀 없었다.

Key words: Anthozoa, Scleractinia, distribution, systematics.

INTRODUCTION

The Scleractinia (= Madreporaria: true or stony corals) similar to Actiniaria and Corallimorpharia in the structure of polyps, are characterized by secreting calcareous exoskeleton consisting of radial partitions or septa between mesenteries. Reef-building corals (hermatypic) are distributed in tropical waters between latitude 30°N and 30°S (roughly the 22°C isotherm), usually no deeper than 50m in water. Ahermatypic corals usually occupy sites at which hermatypes do not grow (caves and overhangs).

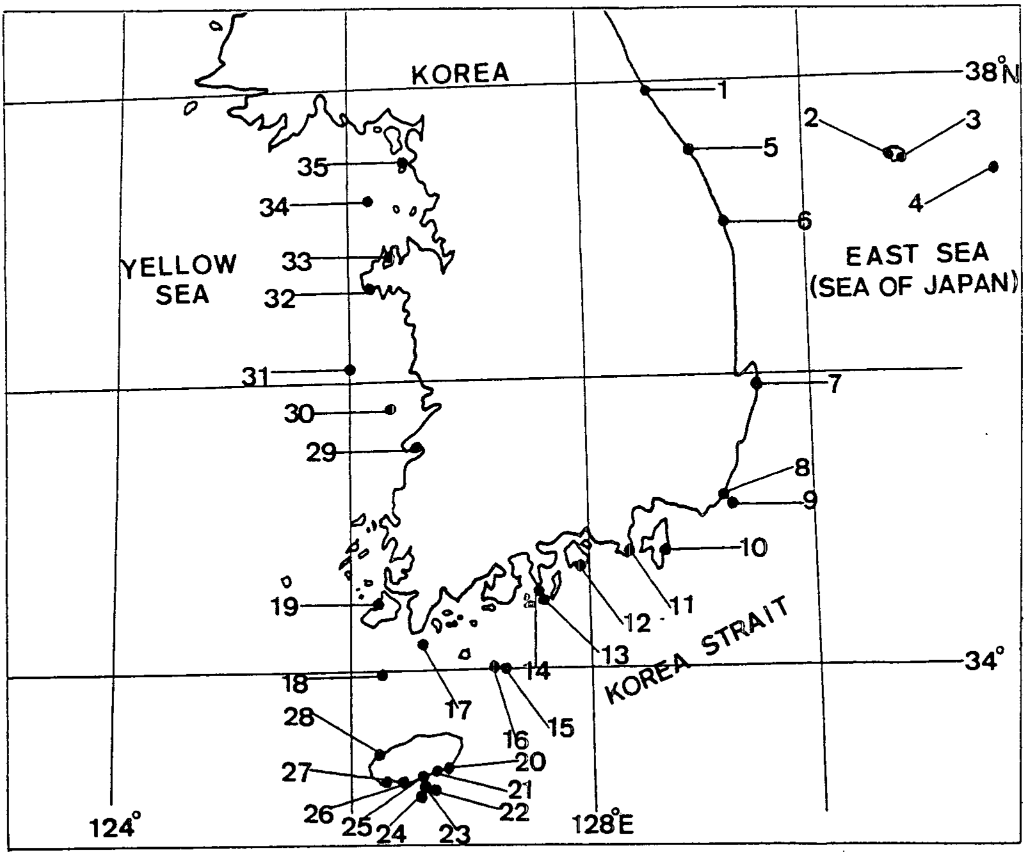


Fig 1. The sampling sites from 1969 to 1986.

1, Aninjin(안인진) ; 2, Ullŭngdo(울릉도) ; 3, Todong(도동) ; 4, Tokdo(독도) ; 5, Samch'ŏk(삼척) ; 6, Ch'uksan(축산) ; 7, Guryongp'o(구룡포) ; 8, Mip'o(미포) ; 9, Oryukto(오륙도) ; 10, Kŏjedo(거제도) ; 11, Ch'ungmu(충무) ; 12, Sangju(상주) ; 13, Wŏnhak(원학) ; 14, Uhak(우학) ; 15, Sambudo(삼부도) ; 16, Kŏmundo(거문도) ; 17, Nohwado(노화도) ; 18, Ch'ujado(추자도) ; 19, Jindo(진도) ; 20, Namwŏn(남원) ; 21, Wimi(위미) ; 22, Sŭpto(섭섬) ; 23, Mundo(문섬) ; 24, Pŏmdo(범섬) ; 25, Sŏgwip'o(서귀포) ; 26, Sammaebong(삼매봉) ; 27, Taep'o(대포) ; 28, Hallim(한림) ; 29, Komso(곰소) ; 30, Maldo(말도) ; 31, Ŏch'ŏngdo(어청도) ; 32, Anhŭng(안흥) ; 33, Hwangkŭmdo(황금도) ; 34, Tŏkchŏkto(덕적도) ; 35, Chakyakto(작약도).

On the Korean scleractinian fauna, Song (1982) first recorded 17 species, six families belonging to five suborders from 16 localities of South Korea, and Song (1988) discussed the distribution of cnidae on seven species of them. Thereafter there has been no work on the fauna including the geographical distribution of them.

This work is the continuation of a systematic study on the Korean Anthozoa, and the author intended to reconsider the classification and the geographical distribution of the Korean scleractinians by identifying the new specimens and considering the previous papers.

MATERIALS AND METHODS

For the faunal study of Korean scleractinians, the collections of them had been attemped at 35 localities along the coasts of South Korea from 1969 to 1986 (Fig. 1), including the records of previous paper (Song, 1982) and the new specimens.

The specimens were collected from the coasts during low tide and from sublittoral zone by skin and SCUBA diving, and fishing nets. They were preserved in 70-80% alcohol after narcotization with menthol.

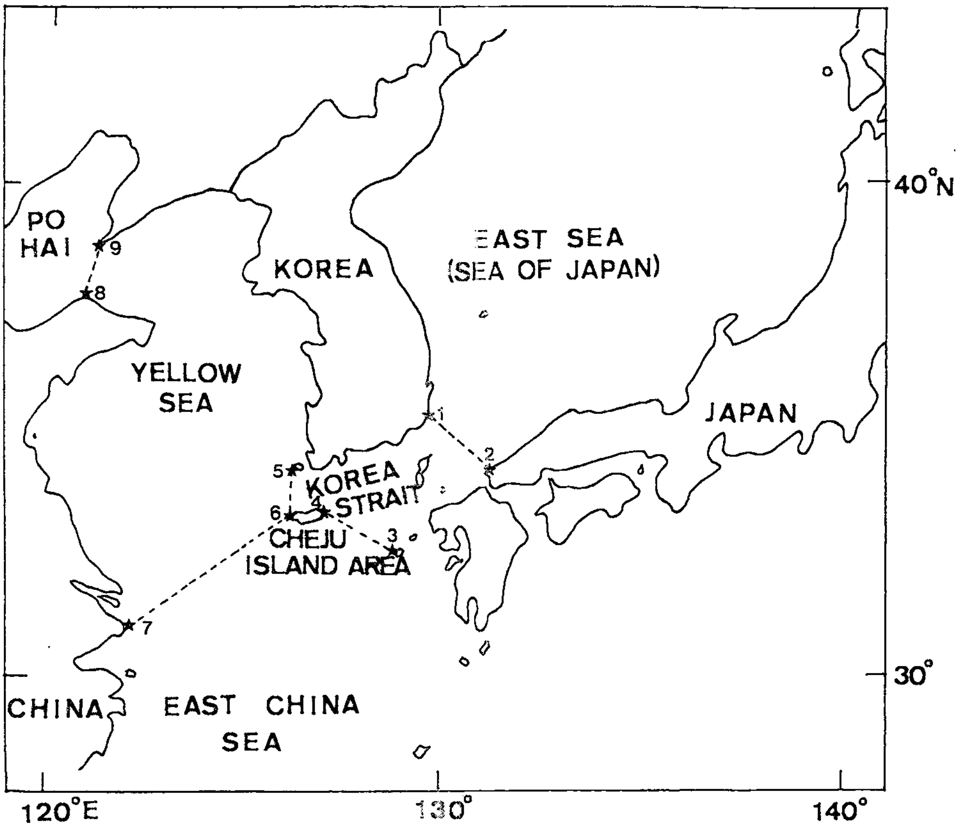


Fig 2. Four regions of Korean waters.
1, Ulgi(울기) ; 2, Senzaki(혼슈) ; 3, Goto(오도열도) ; 4, U-do(우도) ; 5, Chindo(진도) ; 6, Ch'agwi-do(차귀도) ; 7, Yangtze(양자강) ; 8, Shantung pantao(산동반도) ; 9, Liaotung pantao(요동반도).

The cnidae was examined and measured with an ocular micrometer at ×1000 magnification of a light microscope by the squashing bits of tissue with a drop of phenol-glycerine solution. The sclerosepta was observed at stereomicroscope after polyps were resolved in clorax. The classification system is based upon Vaughan & Wells (1943), Wells (1956), and Eguchi (1968).

For the geographical distribution of Korean scleractinians, I divided the coastal waters of Korea into four regions (Fig. 2): the Yellow Sea, the Korea Strait, the Cheju Islands area and the East Sea (Sea of Japan) according to the environmental conditions of Korean waters, such as topography, current, temperature, salinity, and transparency. The distributional form is divided into three: tropical form, temperate zone form, and boreal form. The distributional status of them was analyzed based on the species diversity, the geographical distribution form, and Jaccard's coefficient was calculated to consider similarity of species composition.

SYSTEMATIC ACCOUNT

Class Anthozoa Ehrenberg, 1834 산호충 강
Subclass Hexacorallia Hackel, 1896 육방산호 아강
Order Scleractinia Bourne, 1900 돌산호 목
Suborder Astrocoeniina Vaughan & Wells, 1943 숲돌산호 아목
Family Thamnasteriidae Vaughan & Wells, 1943 덩어리돌산호 과
Genus *Psammocora* Dana, 1848 그물돌산호 속

1. *Psammocora profundacella* Gardiner, 1898 그물코 돌산호

Psammocora profundacella Gardiner, 1898 (p. 537, pl. 45, fig. 3); Yabe & Sugiyama, 1931a (pp. 120, 155, 164); 1931b (p. 359); 1932 (pp. 155, 164); 1935a (pp. 198, 202, 217); 1935b (pp. 393, 397); Yabe *et al.*, 1936 (p. 60, pl. 45, figs. 1, 4, 5, 7, 8); Eguchi, 1935a (pp, 28, 42); 1938 (pp. 2017, 2020); 1968 (p. C10, pl. C5, figs. 1-2); Sugiyama, 1937 (pp. 13-25); Kawaguti, 1953 (p. 191); Utinomi, 1971 (p. 224); Song, 1982 (p. 132, pl. 1, figs. 1-3).

Previous records in Korea: Mundo (Song, 1982).

Material examined: Sŏgwip'o, July 12, 1985, many frags. (J. I. Song), depth 5 m by SCUBA.

Remarks: In life, tentacles are green.

Distribution: Korea (Cheju Is.), Japan (Southern Coast), Formosa, Fanning Is., Andamans.

Family Acroporidae Verrill, 1902 단풍돌산호 과
Genus *Montipora* de Blainville, 1830 단풍돌산호 속

2. *Montipora trabeculata Bernard, 1897 빛단풍돌산호(신칭) (Pl. 1, Fig. 1; Pl. 2, Fig. 1)

Montipora trabeculata Bernard, 1897 (p. 148, pl. 27, fig. 2, pl. 34, fig. 9); Zou *et al.*, 1975 (p. 21, pl. 7, fig. 6).

Material examined: Sŏgwip'o, July 12, 1985, many frags. (J. I. Song), depth 5m by SCUBA.

Description: Corallum massive, unifacial or bifacial thick plates 4-15mm in thickness, 12-13mm thick on inner portion, without outgrowth and low tuberculae. Corallites immersed, evenly distributed, and 0.45-0.66mm in diameter without thecal papillae. Columella feeble or absent. Septa in two cycles with in-

The asterisks (*) indicate the species which were newly recorded in Korea.

wardly projecting spines of which secondaries are rudimentary. Intercalicinal area reticulate, covered with small papillae, 0.23-0.34mm high. In color, colonies uniformly greenish brown.

Remarks: This species is similar to *Montipora hispida.*

Distribution: Korea (Cheju Is.), China, Samoa, Great Barrier Reef.

Suborder Fungiina Verrill, 1865 버섯돌산호 아목
Superfamily Poriticae Gray, 1842 구멍돌산호 상과
Family Poritidae Gray, 1842 구멍돌산호 과
Genus *Alveopora* de Blainville, 1830 거품돌산호 속

3. *Alveopora japonica* Eguchi, 1968 거품돌산호

Alveora cfr. *verrilliana*: Yabe & Sugiyama, 1935a (pp. 191, 195, 198, 214); 1935b (pp. 383, 389, 401); Eguchi, 1935a (p. 45).

Alveopora japonica Eguchi, 1968 (p. C19, pl. C1, figs, 1-2, pl. C7, figs. 1-11, pl. C26, figs. 4-5, pl. C29, figs. 4-5); Utinomi, 1971 (p. 211, pl. 11, figs. 4a-b); Song, 1982 (p. 133, pl. 1, figs. 4-6); 1988 (p. 26, pl. 1, figs. 1-6).

Previous records in Korea: Sŏgwip'o, Sŭpto, Mundo (Song, 1982).

Material examined: Sŏgwip'o, May 20, 1982, 8 sps. (J. I. Song); Mundo, Aug. 3, 1984, 1 sp. (J. G. Jae), depth 20 m; Taep'o, Jan. 16, 1985, 3 sps. (J. H. Park & J. E. Seo): Sammaebong, Jan. 18, 1985, 2 sps. (J. E. Seo); Hallim, Jan. 19, 1985, 2 sps. (J. E. Seo & H. S. Choi); Sŏgwip'o, Jan 21, 1985, 2 sps. (B. J. Rho); Sŏgwip'o, July 12, 1985, many sps. (J. I. Song); Sŏgwip'o, Oct. 9, 1986, 1 sp. (J. H. Park & S. Shin), depth 15-20m by fishing nets.

Remarks: Calicles of the smallest colony from Sammaebong are 2.0mm in diameter, but usually 2.5-5.0 mm in the most colonies. As the massive corallum is growing up, the size of calicles and shape of corallum are changeable.

Distribution: Korea (Cheju Is.), Japan.

Suborder Faviina Vaughan & Wells, 1943 벌집돌산호 아목
Superfamily Faviicae Gregory, 1990 벌집돌산호 상과
Family Rhizangiidae d'Orbigny, 1851 근생돌산호 과
(=Astrangiidae Verrill, 1869)
Genus *Culicia* Dana, 1848 혹돌산호 속

4. *Culicia japonica* Yabe & Eguchi, 1936 혹돌산호

Culicia japonica Yabe & Eguchi, 1936 (pp. 167-168, figs. 1-3); 1942a (p. 128); Eguchi, 1968 (pp. C26-27, pl. C9, figs. 1-3); Song, 1982 (pp. 133-134, pl. 1, figs. 1-3); 1988 (pp. 26-27, pl. 1, figs. 7-10).

Previous records in Korea: Sŭpto and Mundo (Song, 1982).

Material examined: Ch'ungmu, Jun. 6, 1978, 2 sps. (B. J. Rho & J. I. Song) by trawl; Sambudo, Jul. 21, 1982, 1 sp. (J. I. Song & D. H. Chang), depth 20m by fishing nets.

Distribution: Korea (Korea Strait, Cheju is.), Japan.

Genus *Oulangia* M. Edw. & H., 1848 진돌산호 속(신칭)

5. *Oulangia stokesiana miltoni* Yabe & Eguchi 1932 밀톤진돌산호(신칭)

(Pl. 1, Fig. 2, Pl. 2, Figs. 2-3)

Oulangia stokesiana miltoni Yabe & Eguchi, 1932a (pp. 29-31, pl. 4, figs. 1-9); Eguchi, 1968 (p. C27, pl. C4, figs. 2-3).

Material examined: Hwangkŭmdo, Oct. 9, 1981, 1 sp. (J. S. Hong); Wŏnhak, Aug. 5, 1983, 5 sps. (J. I. Song); Uhak, Aug. 5, 1983, 17 sps. (J. I. Song); Mip'o, Nov. 27, 1983, 2 sps. (J. I. Song); Anhŭng, Oct. 27, 1984, 3 sps. (J. I. Song); Tŏkchŏkto, Oct. 16, 1985, 3 sps. (J. I. Song); Och'ŏngdo, Jul 8, 1986, 3 sps. (J. I. Song); Maldo, Jul. 10, 1986, 4 sps. (S.J. Yun), intertidal zone-10m deep.

Description: Corallites 2.5-10.0mm in diameter, 1.5-7.0mm in height, scattered over dead shells. stones, basal parts of corals, without any connection or united by thin perithecal expansions. Calicles up to 5mm deep in 7mm high specimens, with a well-developed papillose columella. Septa in four complete cycles, unequal, granulated on lateral surface, with inner portion divided into numerous small prominent teeth, which blend with papillae of columella. Principal septa relatively larger than other septa and exsert. Epitheca absent. In color, tentacles mainly yellowish orange, sometimes green, and column purplish brown in life. Sclerosepta variable purplish brown except for outer margin of septa partly white.

Cnidom: Basitrichous isorhizas, holotrichous isorhizas, microbasic p-mastigophores, spirocysts.

Distribution and size (in μm) of cnidae are as follows:

Tentacles:

Basitrichous isorhizas	17.2×3.3, 25.7-32.9×3.9-4.6
Holotrichous isorhizas	28.6-35.8×7.2-8.6
Microbasic p-mastigophores	32.9-42.9×6.9-7.2
Spirocysts	22.9-31.5×4.3-4.6

Actinopharynx:

Basitrichous isorhizas	35.8×4.8, 18.6-27.2×4.3-4.8
Holotrichous isorhizas	28.6-34.3×7.1-7.9

Filaments:

Holotrichous isorhizas	32.9-41.5×10.7-18.6
Microbasic p-mastigophores	42.9×10.0, 12.9×5.7 (rare), 25.7-35.8×7.2-10.0

Column:

Holotrichous isorhizas	15.7-22.9×5.7-7.2
Microbasic p-mastigophores	15.7-21.5×5.7-7.2

Distribution: Korea (Korea Strait, Yellow), Japan.

Suborder Caryophylliina Vaughan & Wells, 1943 정향돌산호 아목
Superfamily Caryophylliicae Gray, 1847 정향돌산호 상과
Family Caryophylliidae Gray, 1847 정향돌산호 과
Subfamily Caryophylliinae Gray, 1847 정향돌산호 아과
Genus *Caryophyllia* Lamarck, 1801 정향돌산호 속

6. *Caryophyllia japonica* Marenzeller, 1888 정향돌산호

Caryophyllia japonica Marenzeller, 1888 (p. 16); Eguchi, 1941 (p. 1186); 1968 (pp. C31-32, pl. C11, figs. 4-6, 10-29, pl. C23, figs. 7-9, pl. C25, figs. 5-6, pl. C29, figs. 6-7); Yabe & Eguchi, 1942a (p. 119, pl. 10, figs. 1-3); Song, 1982 (p. 134, pl. 2, figs. 3-4); 1988 (p. 27, pl. 3, figs. 9-11).

Caryophyllia ephyala Alcock, 1902 (p. 9); Yabe & Eguchi, 1932a (p. 388).

Previous records in Korea: Aninjin, Guryongp'o, Mip'o and Todong (Song, 1982).

Material examined: between Sŭpto and Mundo, Feb. 8, 1971, 1 sp. (B. J. Rho), depth 60m; Mip'o, Jul. 13, 1974, 10 sps. B. J. Rho & J. I. Song); Mip'o, Dec. 6, 1980, 2 sps. (J. I. Song); Mip'o, Dec. 8, 1981, 1 sp. (J. E. Seo); Mip'o, May 28, 1982, 1 sp. (J. I. Song); Mip'o, Nov. 26, 1983, 15 sps. (J. I. Song & J. H. Park); Mip'o, Nov. 27, 1983, 10 sps. (J. I. Song, & J. H. Park); Mip'o, Jan. 12, 1984. 1 sp. (H. S. Han); Mip'o, Dec. 27, 1986, many sps. (J. I. Song), by trawl.

Distribution: Korea (Cheju Is., Korea Strait, Sea of Japan), Japan, Philippines, Banda Sea, Indian Ocean (Andamanes, Laccadive Is., Seychelles, Providence, Saya de Malha).

Genus *Cyathoceras* Moseley, 1881 컵돌산호 속

7. *Cyathoceras niinoi* Yabe & Eguchi, 1942 니노컵돌산호

Cyathoceras niinoi Yabe & Eguchi, 1942a (p. 117, 145-146, pl. 9, figs. 9a-b); Song, 1982 (pp. 134-135, pl. 2, figs. 1-2).

Previous records in Korea: Mip'o (Song, 1982).

Distribution: Korea (Korea Strait), Japan.

Genus *Heterocyathus* M. Edw. &. H., 1848 이형컵돌산호 속

8. *Heterocyathus aequicostatus* M. Edw. & H., 1848 이형컵돌산호

Heterocyathus aequicostatus M. Edw. & H.,1848 (p. 321, pl. 10, fig. 8); Yabe & Eguchi, 1932d (p. 443)); 1942a (p. 127, pl. 11, figs. 2-5); Sakakura, 1935 (pp. 185-186); Eguchi, 1938 (p. 2020); 1941 (p. 1187); 1968 (pp. C36-37, pl. C28, fig. 1, pl. C29, figs. 8-9); Vaughan and Wells, 1943 (pp. 30, 207, 333); Wells, 1956 (p. F424); Song, 1982 (p. 135, pl. 2, figs. 7-9).

Previous records in Korea: Mip'o, Komso, Chakyakdo and Kŏjedo (Song, 1982).

Distribution: Korea (Yellow Sea, Korea Strait), Japan, China Sea, Taiwan, Philippines, Indonesia, Ceylon, Persian Gulf, South Africa.

9. *Heterocyathus japonicus* (Verrill, 1866) 일본이형컵돌산호

Stephanoseris japonica Verrill, 1866 (p. 47).

Stephanoseris carthausi: Makiyama, 1926 (p. 5): Sakakura, 1935 (p. 189).

Heterocyathus japonicus: Yabe & Eguchi, 1942a (pp. 127-128, pl. 11, fig. 6); Eguchi, 1968 (p. C37, pl. C4, fig. 1, pl. C27, figs. 12-14); Song, 1982 (p. 135, pl. 2, figs. 10-11).

Previous records in Korea: Mip'o and Oryukto (1982).

Material examined: Ullŭngdo, Apr. 19. 1982, 2 sps. (J. S. Hong); Uhak, Aug. 6, 1983, 4 sps. (J. I. Song), by fishing nets.

Remarks: Four specimens from Uhak are attached on a gastopod shell (*Fusinus* sp.)

Cnidom: Basitrichous isorhizas, holotrichous isorhizas, microbasic p-mastigophores, spirocysts.

Distribution and size (in μm) of cnidae are as follows:

Tentacles:

Basitrichous isorhizas	21.5-22.9 × 4.3
Holotrichous isorhizas	24.3-30.0 × 6.4-7.2

Microbasic p-mastigophores ______ 12.9-14.3×5.7-7.2, 17.2-31.5×4.3-5.8
Spirocysts ______ 11.4-20.0×2.8-3.5
Central part of calyx:
Holotrichous isorhizas ______ 21.5-28.6×6.5-8.6, 40.1×17.2 (rare)
Microbasic p-mastigophores ______ 24.3-28.6×7.2-7.9

Distribution: Korea (Korea Strait, Sea of Japan), Japan, Taiwan, Java.

Genus *Stephanocyathus* Seguenza, 1864 관첩돌산호 속
Subgenus *Odontocythus* Moseley, 1881 긴다리돌산호 아속

10. *Stephanocyathus (Odontocyathus) spiniger* (Marenzeller, 1888) 긴다리돌산호

Stephanotrochus spiniger von Marenzeller, 1888 (p. 20).
Odontocyathus sexradis Alcock, 1902 (p. 23, pl. 3, figs, 20, 20a-b).
Odontocyathus sp. Alcock, 1902 (p. 24).
Odontocyathus stella Alcock, 1902 (p. 24, pl. 21, 21a-b).
Odontocyathus spiniger: Eguchi, 1941 (p. 1188); 1968 (pp. C39-40, pl. C23, figs. 1-2, pl. C20, figs. 12-14); Yabe & Euchi, 1942a (pp. 124-125, pl. 10, figs. 26a-c, 27a-c, 28a-b).
Stephanocyathus (Odontocyathus) spiniger: Utinomi, 1965 (p. 254); Song, 1982 (p. 136, pl. 4, figs. 1-2).

Previous records in Korea: Sŏgwip'o (Song, 1982).

Distribution: Korea (Cheju Is.), Japan, East Indies.

Subfamily Desmophylliinae Vaughan & Wells, 1943 나팔꽃돌산호 아과
Genus *Desmophyllum* Ehrenberg, 1834 나팔꽃돌산호 속

11. *Desmophyllum insignis* (Duncan, 1876) 나팔꽃돌산호

Javania insignis Duncan, 1876 (pp. 435-436, pl. 39, figs. 11-13).
Desmophyllum insignis: Eguchi, 1941 (p. 1187); 1968 (pp. C41-42, pl. C9. figs, 4-6);Yabe & Eguchi, 1942a (p. 115, pl. 9, figs. 5-6); Song, 1982 (p. 136, pl. 2, figs, 5-6); 1988 (pp. 27-28, pl. 2, figs. 1-5).

Previous records in Korea: Sŭpto, Mundo and Sŏgwip'o (Song, 1982).

Material Examined: Between Wimi and Namwŏn, Oct. 10, 1986, 1 sp. (J. H. Park); Sŏgwip'o, Oct. 9, 1986, 2 sps. (J. H. Park & S. Shin), depth 15-20m by fishing nets.

Distribution: Korea (Cheju Is.), Japan, Red Sea.

Subfamily Parasmiliinae Vaughan & Wells, 1943 촉끌돌산호 아과(신칭)
Genus *Goniocorella* Yabe & Eguchi, 1932 각돌산호 속(신칭)

12. **Goniocorella dumosa* (Alcock, 1902) 덤불각돌산호(신칭) (Pl. 1, Fig. 3; Pl. 2, Figs. 4-7)

Pourtalosmilia dumosa Alcock, 1902 (pp. 36-37, pl. 5, figs. 33, 33a).
Goniocorella dumosa: Yabe & Eguchi, 1932c (pp. 389-390); 1936 (p. 167); Vaughan & Wells, 1943 (pp. 216, 218, pl. 46, fig. 4).

Material examined: Ullŭngdo, Jul. 11, 1984, 13 sps. (J. I. Song), by fishing nets.

Description: The parent corallum trumpet-shaped, budding perpendicularly from wall of parent on every

side, 0.5-4.0mm below calicular margin. Corallites with faintly costate near calice. Calica circular, 4.5×4.5-8.0×6.5mm in diameter, 5-6mm deep and 10-14mm high in parents. Buds same as parents in feature, up to 3.8mm in diameter, 6-9mm high. Septa thin, entire, in three cycles of hexameral plan, showing keels on lateral surface of 1st cycle. Columella and pali absent. Corallites usually covered with hydroids, sponges, bryozoans, and calcareous annelids.

Distribution: Korea (Sea of Japan), Japan, New Zealand.

Superfamily Flabellicae Bourne, 1905 부채돌산호 상과

Family Flabellidae Bourne, 1905 부채돌산호 과

Genus *Flabellum* Lesson, 1831 부채돌산호 속

13. *Flabellum distinctum* M. Edw. & H., 1848 부채돌산호

Flabellum distinctum M. Edw. & H., 1848 (p. 262); Alcock, 1902 (p. 30); Yabe & Eguchi, 1932c (p. 389); 1932d (p. 443); 1942a (pp. 130-131); 1942b (pp. 93-95); Eguchi, 1938 (p. 1188); 1944 (pp. 132-134); 1968 (p. C44, pl. C22, figs, 2,3,6,7, pl. C25, figs. 7,8, pl. C28, figs. 3, 6); Utinomi, 1965 (p. 255); Song, 1982 (p. 136-137, pl. 3, figs. 1-4).

Previous records in Korea: Sŏgwip'o and Pŏmdo (Song, 1982).

Distribution: Korea (Cheju Is.), Japan, widespread in all warm seas of Atlantic, Pacific and Indian Oceans.

14. *Flabellum rubrum* (Quoy & Gaimard, 1833)쐐기부채돌산호

Turbinolia rubra Quoy & Gaimard, 1833 (P. 188, pl. 14, figs. 13-14).

Flabellum rubrum: Yabe & Eguchi, 1932b (p. 443); 1942a (pp. 131-132, pl. 11, figs. 13-14); 1942b (pp. 96-98, pl. 8, figs. 6-30); Eguchi, 1938 (p. 2020); 1941 (pp. 1186-1188); 1968 (p. C45-46, pl. C25, figs. 1,2,9); Vaughan & Wells, 1943 (pp. 41, 89); Utinomi, 1965 (p. 256); Song, 1982 (p. 137, pl. 3, figs. 7-8).

Previous records in Korea: Sŏgwip'o (Song, 1982).

Distribution: Korea (Cheju Is.), Japan, China Sea, Philippines, New Zealand, Indian Ocean.

15. *Flabellum transversale* Moseley, 1881 횡주름부채돌산호

Flabellum transversale Moseley, 1881 (p. 174, pl. 6, figs. 6, 6a); Yabe & Eguchi, 1932d (p. 443): 1942a (pp. 134-135); 1942b (pp. 99-100, pl. 6, fig. 11, pl. 7, figs. 1-6, 9, 12); Eguchi, 1941 (pp. 1186-1188); 1968 (pp. C46-47, pl. C20, figs. 8-9); Song, 1982 (p. 138, pl. 3, figs. 5-6); 1988 (pp. 28-29, pl. 2, figs. 6-11).

Flabellum dens Alcock, 1902 (p. 32, pl. 4, figs. 30, 30a).

Flabellum inconstans Marenzeller, 1904 (pp. 277-280, pl. 17, fig. 11).

Previous records in Korea; Mip'o and Oryukto (Song, 1982).

Material examined: Mip'o, Nov. 27, 1983, 4 sps. (J. I. Song); Mip'o, Jan. 12, 1984, 8 sps. (H. S. Han); Ch'ujado, Feb. 6, 1986, 1 sp. (J. W. Lee), with fishing nets.

Remarks: *Bellonella rigida,* bryozoans, tubes of calcareous annelids are attached on the lateral surface of corallum.

Distribution: Korea (Korea Strait), Japan, Philippines, Australia, New Zealand.

Suborder Dendrophyllina Vaughan & Wells, 1943 나무돌산호 아목

Family Dendrophylliidae Gray, 1847 나무돌산호 과

Genus *Dendrophyllia* de Blainville, 1830 나무돌산호 속

16. **Dendrophyllia arbuscular*** van der Horst, 1922 관목나무돌산호 (Pl. 1, Fig. 4; Pl. 3, Fig.1)

Dendrophyllia arbuscular van der Horst, 1922 (p. 105, pl. 8, fig. 6); Eguchi, 1934 (p. 367); 1941 (p. 1187); 1965 (p. 294); 1968 (p. C55, pl. 21, figs. 5, 13); Yabe & Eguchi, 1942a (pp. 162, 166, 167); Utinomi, 1966 (p. 100); 1971 (p. 220, pl. 13, figs. 4a-b); Phillai and Scheer, 1974 (p. 462, fig. 7a).

Material examined: Sŏgwip'o, Oct. 19, 1973, 2 sps. (B. J. Rho), by fishing nets.

Description: Dendroid colonies branching once or twice in all directions. Budding occuring near calicular margin. Corallite thinner near base than margin of calice, e.g. respectively 8 and 11 mm in diameter, and 6-22mm long. Longest simple corallite 42mm long and 11 mm in diameter. Calice circular, fossa 3-4mm deep, axial calicle 10×11 - 11×12mm and lateral calicle 5.5×6 - 8×9mm in diameter. Ribs rectilinier to base of colony, slightly prominent and covered with very fine granulation. Rows of perforations present in intercostal furrows. Septa in four cycles. 1st cycle entire, slightly exsert, covered with granulations and larger than others. 2nd cycle shorter than 1st cycle in the fossa. 3rd cycle very small and unite 4th cycle with dentate edge. Columella well developed up to 5×3mm in diameter, trabecular and prominent. Epitheca absent.

Distribution: Korea (Cheju Is.), Japan.

17. ***Dendrophyllia boschmai*** van der Horst, 1926 보슈마나무돌산호

Dendrophyllia japonica van der Horst, 1922 (p. 103, pl. 7, fig. 6).

Dendrophyllia boschmai van der Horst, 1926 (p. 44); Eguchi, 1934 (p. 367); 1935a (p. 1); 1935b (p. 404); 1941 (p. 1187); 1968 (pp. C56-57, pl. C15, figs. 4, 7, pl. C16, figs. 3, 4, pl. C17, figs. 12, 15, pl. C30, fig. 1); Yabe & Eguchi, 1936 (p. 167); Song, 1982 (p. 138, pl. 4, figs. 3-4).

Previous records in Korea: Sŏgwip'o (Song, 1982).

Material examined: Sŏgwip'o, Dec. 10, 1969. 1 sp. (B. J. Rho); Pŏmdo, Dec. 15, 1969, 1 sp. (B. J. Rho); between Sŭpto and Mundo, Feb. 8, 1971, 3 sps. (B. J. Rho); Sŏgwip'o, Dec. 26-27, 1971. 2 sps. (B. J. Rho); Sŏgwip'o, May 19, 1983, 1 sp. (S. J. Yun), depth 60m by fishing nets.

Distribution: Korea (Cheju Is.), Japan.

18. **Dendrophyllia boschmai cyathoheliodes*** Yabe & Eguchi, 1965 컵보슈마나무돌산호(신칭) (Pl. 1, Figs. 7-8)

Dendrophyllia cyathohelioides: Eguchi, 1934 (p. 367).

Dendrophyllia boschmai var.: Eguchi, 1935b (p. 404).

Dendrophyllia boschmai cyathohelioides: Eguchi, 1968 (pp. C57, pl. C2, fig. 1, pl. C15, figs. 1-3, 8-9).

Material examined: Sŏgwip'o, Dec. 27, 1971, 2 sps. (B. J. Rho), by fishing nets.

Description: Corallum arborescent, branching alternating on both sides of branch, often two new buds arising on both ends of calice and forming similar branches as *Cyathelia axillaris*. Two colonies fragmentary, loosly branching in one plane, and branches 15-28mm long. Corallites turbinate, widened towards calice. Axial calicles elliptical. 5.5×5.0 - 7.0×6.5mm in diameter, and lateral ones at axillary of branches 7.0×6.5 - 8.0×7.0mm in diameter. Calicinal fossa deep, 4.5×6.5mm in diameter. Septa of 1st and 2nd cycles very exsert, 4th cycles united in front of 3rd cycles, and the sides covered with irregularly scattered fine granulations. In margin of septa, 1st and 2nd cycle entire, and 3rd and 4th cycle dentate. Epitheca absent.

Remarks: This species is distinguished from *Dendrophyllia boschmai* in point of the fewer cycle of septa.

Distribution: Korea (Cheju Is.), Japan.

19. *Dendrophyllia cribrosa* M. Edw. & H., 1860 유착나무돌산호

Dendrophyllia cribrosa M. Edw. & H. 1860 (p.235); van der Horst, 1922 (p. 104, pl. 7, fig, 2); Eguchi, 1935b (pp. 402-404, fig. 1); 1968 (pp. C58-59, pl. C2, fig. 2, pl. C21, fig. 3,4); Yabe & Eguchi, 1944 (pp. 135-136, pl. 7, Fig. 4); Song, 1982 (p. 139, pl. 3, figs. 9-10); 1988 (p. 29, pl. 3, figs. 1-8).

Dendrophyllia ramiculosa: Eguchi, 1934 (p. 367).

Previous records in Korea: Jindo, Sanju, Nohwado and Ch'uksan (Song, 1982).

Material examined: Sanju, May 20, 1981, 1 sp. (J. I. Song); Uhak, Aug. 5, 1983, 1 sp. (J. I. Song).

Remarks: In color, tentacles and whole colonies are orange in life.

Distribution: Korea (Korea Strait, Sea of Japan), Japan.

20. *Dendrophyllia florulenta* van der Horst, 1922 꽃나무돌산호

Dendrophyllia florulenta van der Horst, 1922 (p. 106, pl. 7, fig. 5); Wells, 1954 (p. 473, pl. 180, figs. 4-5); Song, 1982 (p. 139, pl. 4, figs. 5-6).

Dendrophyllia cf. *fluolenta*: Eguchi, 1934 (p. 367); 1968 (p. C59).

Previous records in Korea: Sŏgwip'o (Song, 1982).

Distribution: Korea (Cheju Is.), Japan, Malay Archipelago, Bikini Atoll.

21. **Dendrophyllia micranthus* (Ehrenberg, 1834) 잔가지나무돌산호(신칭)

(Pl. 1, Fig. 6, Pl. 3, Fig. 2)

Oculina micranthus Ehrenberg, 1834 (p. 80).

Dendrophyllia equiserialis Quelch, 1886 (p. 116).

Dendrophyllia micranthus van der Horst, 1922 (pp. 101-103); Eguchi, 1934 (pp. 366-367); 1935a (pp. 21, 30, 43, 47); 1935c (p. 2026); 1938 (p. 2015); 1968 (p. C66, pl. C24, figs. 2-3); Vaughan & Wells, 1943 (p. 343, pl. 51, figs. 2, 2a); Nemenzo, 1960 (pp. 16-17, pl. 8, fig. 2); Utinomi, 1965 (pp. 256-257); 1971 (pp. 219-220).

Material examined: Sŏgwip'o, Feb. 6, 1971, 2 sps. (B. J. Rho), by fishing nets.

Description: Two colonies fragmentary, 125mm high, 38mm wide, 27mm thick, and 95mm high, 42mm wide, 28mm thick. They loosely branching in the one plane, branches 32-35mm long. Calicles characteristic in shape and arrangement. Alternating calicles pushed away from each other, 8.5×7.0 - 10.0×8.0mm in diameter, 4.0-6.0mm long. Secondary calicles formed on front and back side, 7.5×6.5 - 8.0×6.5mm in diameter, 8.0-16.0mm long, 5.0-8.0mm deep. Costae covered with fine granulations, and rows of perforation in the intercostal furrows. Septa in four cycle. Septa of 1st and 2nd cycles exert, entire, and the sides covered with irregularly scattered fine granulations. Third and 4th cycles very small, and 4th dentate cycle unite in front of 3rd cycle. Columella composed of 2-3 trabecular, projecting from bottom of calice. Epitheca absent.

Remarks: The specimens are similar to the figures of Eguchi (1968), but differ from Nemenzo's (1960) in the shape of columella.

Distribution: Korea (Cheju Is.), Japan, Philippines, Fiji Is., Murray Is., Seychelles, Red Sea.

Genus *Tubastraea* Lesson, 1834 나팔돌산호 속

22. *Tubastraea aurea* (Quoy & Gaimard, 1833) 금빛나팔돌산호

Lobophyllia aurea Quoy & Gaimard, 1833 (p. 390, pls. 14-25).

Dendrophyllia willeyi van der Horst, 1922 (p. 108, pl. 8, figs. 17-18).

Dendrophyllia aurea: Eguchi, 1934 (p. 367); 1938 (p. 2015).

Tubastraea aurea: Searle, 1956 (pp. 24, pl. 38B); Utinomi, 1954 (p. 106); 1965 (pp. 257-258); 1966 (p. 102);.1971 (pp. 220-221); Eguchi, 1968 (pp. C68-70, pl. C16, figs. 5-6, pl. C17, fig. 17, pl. C26, figs. 2-3); Song, 1982 (pp. 139-140, pl. 3, figs. 11-12).

Previous records in Korea: Mundo (Song, 1982).

Material examined: Mundo, Jan. 16, 1986, 1 sp. (H. S. Han), depth 30 m by SCUBA.

Remarks: Calice is up to 15 × 12 mm in diameter. In color, tentacles and oral margins are yellow, whole colonies are peach red.

Distribution: Korea (Cheju Is.), Japan, circumtropical throughout the west Atlantic and Indo-Pacific.

23. *Tubastraea coccinea* Lesson, 1834 진홍나팔돌산호

Dendrophyllia ehrenbergiana van der Horst, 1922 (p. 107, pl. 7, figs. 3-4).

Dendrophyllia coccinea: Utinomi, 1965 (p. 257); 1966 (p. 102); Eguchi, 1965 (p. 296, fig. 449).

Dendrophyllia erecta Nemenzo, 1960 (p. 19, pl. 10, fig. 1).

Tubastraea coccinea: Vaughan and Wells, 1943 (p. 238); Utinomi, 1954 (p. 106); 1971 (p. 221); Eguchi, 1968 (pp. C70-71, pl. C2, fig. 3, pl. C14, figs. 4-5, 8-9); Song, 1982 (p. 140, pl. 4, figs. 7-8); 1988 (pp. 29-30, pl. 1, figs, 11-18); Veron, 1986 (pp. 580-585).

Tubastraea coccinea titijimaensis: Eguchi 1934 (p. 367); 1968 (p. C71, pl. C17, fig. 16, pl. C31, figs. 1-4).

Previous records in Korea: Sŏgwip'o (Song, 1982).

Material examined: Mundo, Aug. 3, 1984, 2 sps. (J. G. Gae); Mundo, Jul. 13, 1985, 3 sps. (J. I. Song); Mundo, Jan. 16, 1986, 4 sps. (H. S. Han), depth 20-30 m by SCUBA.

Remarks: In color, whole colonies are vermilion with light-shaded oral margin and tentacles. Calicle is up to 18×12mm in diameter, fossa 10-22mm deep.

Distribution: Korea (Cheju Is.), Red Sea eastward to Marshall Is., and northward to Japan.

Genus *Rhizopsammia* Verrill, 1869 뿌리돌산호 속

24. ****Rhizopsammia minuta mutsuensis*** Yabe & Eguchi, 1932 무쓰뿌리돌산호

(Pl. 1, Fig. 5; Pl. 3, Figs. 3-6)

Rhizopsammia minuta mutsuensis Yabe & Eguchi, 1932b (pp. 207-209, pl. 9, figs. 1-3); Abe, 1939 (p. 175); Eguchi, 1934 (p. 368); 1965 (p. 293, fig. 440); 1968 (p. C72, pl. C4, fig. 4, pl. C14, figs. 1-3).

Material examined: Guryongp'o, Dec. 25, 1974, many sps. (B. J. Rho & J. I. Song); Ullŭngdo, Apr. 19, 1982, 2 sps. (J. S. Hong); Mip'o, Nov. 26-27, 1983, many sps. (J. I. Song); Samch'ŏk, Aug. 7, 1984, 4 sps. (J. I. Song); Anhŭng, Oct. 27, 1984. many sps. (J. I. Song); Tŏkchŏkto, Oct. 16, 1985, many sps. (J. I. Song); Ŏch'ŏngdo, Jul. 8-9, 1986, many sps. (J. I. Song); Maldo, Jul 10, 1986, many sps. (S. J. Yun), Intertidal zone-15m deep.

Description: Encrusting colony consisting of a large number of corallites connected at base by stoloniferous expansion. Corallitae fragile, cylindrical, 2.5-6.0mm in diameter (mostly 4.0-5.0mm), and 1.5-8.0mm in height (mostly 3.0-4.0mm). Calice circular, fossa 2.0-4.5 mm deep, costae somewhat elevated, but sometimes covered with calcareous algae, sponges, and bryozoans. Septa four cycles complete, thin and subequal in thickness. Septa of 4th cycles united in pairs in front of 3rd short cycles. All septa dentated on edge,

and granulated on lateral surface. Columella oval, 1.0 × 1.5mm in diameter, well developed trabecular, No paliform lobes. In color, polyp yellowish orange in life, and yellowish brown in alcohol.

Cnidom: Basitrichous isorhizas, holotrichous isorhizas, microbasic p-mastigophores, microbasic b-mastigophores, spirocysts.

Distribution and size (in μm) of cidae are as follows:

Tentacles:

Basitrichous isorhizas	21.5-24.3 × 3.5-4.3
Holotrichous isorhizas	28.6-35.8 × 14.3-17.2, 62.9-64.4 × 17.2-21.5
Microbasic p-mastigophores	31.5-41.5 × 5.7
Spirocysts	21.5-27.2 × 3.6-5.0

Actinopharynx:

Basitrichous isorhizas	22.9-30.0 × 4.3
Holotrichous isorhizas	21.5-30.0 × 7.2-7.9, 44.4-71.5 × 18.6-21.5
Microbasic p-mastigophores	32.9-35.8 × 5.7-6.0
Microbasic b-mastigophores	15.7-18.6 × 5.7-7.2
Spirocysts	18.6-20.0 × 3.6-4.3

Filaments:

Basitrichous isorhizas	21.5-25.8 × 4.0-4.3
Holotrichous isorhizas	14.3-17.2 × 5.7, 25.7-35.8 × 7.2-7.9, 65.8-71.5 × 17.2-18.6
Microbasic p-mastigophores	18.6-31.5 × 6.4-7.2
Spirocysts	20.0-24.3 × 3.2-4.3

Column:

Holotrichous isorhizas	61.5-74.4 × 14.3-21.5
Microbasic p-mastigophores	14.3 × 7.2, 30.0-37.2 × 7.2-9.3
Microbasic b-mastigophores	12.0-17.2 × 4.3-5.7
Spirocysts	22.9-30.0 × 4.3-5.7

Habitat: The colony of this species occurs in shaded places as in a crevice, behind rocks, and on the basal parts of corals.

Distribution: Korea (Yellow Sea, Korea Strait, Sea of Japan), Japan.

RESULTS AND DISCUSSION

Up to this time, the scleractinians known from Korean waters are 24 species, 15 genera, 7 families, and 5 suborders as shown in Table 1. Of these, 7 species are newly recorded in the present paper and the remaining 17 species were identified by Song (1982).

The distribution of scleractinian species in Korean waters is as shown in Table 2. Korean scleractinian species are distributed in 4 regions, but most of them (16 spp.) occur in the Cheju Island area.

Due to the influence of Kuroshio, the northern-most reef-coral grows at Lat. 35° 10°N in the Japanese Sea (Yabe & Sugiyama, 1935a). Although the southern part of Korea is situated on same latitude as Japan, there are no growing any reef-corals, and the composition of species is quite different.

For the geographical analysis, I prepared following tables based on the species diversity, the geographical

Table 1. Numbers of species in Korean scleractinians

Suborders	Families	Genera	No. of sp.
Astrocoeniina	Thamnasteriidae	*Psammocora*	1
	Acroporidae	*Montipora*	1
Fungiina	Poritidae	*Alveopora*	1
Faviina	Rhizangiidae	*Culicia*	1
		Oulangia	1
Caryophylliina	Caryophylliidae	*Caryophyllia*	1
		Cyathoceras	1
		Heterocyathus	2
		Stephanocyathus	1
		Desmophyllum	1
		Goniocorella	1
	Flabellidae	*Flabellum*	3
Dendrophyllina	Dendrophylliidae	*Dendrophyllia*	6
		Tubastraea	2
		Rhizopsammia	1
5 suborders	7 families	15 genera	24 spp.

Table 2. Distribution of scleractinian species in Korean waters

Regions / Species	East Sea							Korea Strait												Cheju Island area									Yellow Sea						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Psammocora profundacella																							+		+										
Montipora trabeculata																									+										
Alveopora japonica																						+	+		+	+	+	+							
Culicia japonica											+					+						+	+							+	+	+	+	+	
Oulangia stokesiana miltoni								+						+	+																				
Caryophyllia japonica	+		+				+	+														+	+												
Cyathoceras niinoi								+																											
Heterocyathus aequicostatus								+		+					+														+	+	+	+		+	+
H. japonicus		+						+	+						+																				
Stephanocyathus spiniger																									+										
Desmophyllum insignis																				+	+	+	+												
Goniocorella dumosa		+																																	
Flabellum distinctum																								+	+										
F. rubrum																									+										
F. transversale								+	+									+																	

Regions	East Sea							Korea Strait												Cheju Island area									Yellow Sea						
Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Dendrophyllia arbuscula																									+										
D. boschmai																						+	+	+	+	+									
D. boschmai cyathohelioides																									+										
D. cribrosa						+						+		+			+		+																
D. florulenta																									+										
D. micranthus																									+										
Tubastraea aurea																							+												
T. coccinea																							+												
Rhizopsammia minuta mutsuensis		+			+			+																						+	+	+		+	
Total No. of Species	5							9												16									3						

distribution and the community coefficient. As shown in Table 3, there is no species occuring in all regions simultaneously, and only three species are distributed in the Yellow Sea, 5 species in the East Sea, 9 species in the Korea Strait, and 16 species in Cheju Island area. The total 24 species consist of 16 species of tropical forms and 8 species of temperate zone forms.

As shown in Table 4, the percentages of tropical forms and temperate zone forms to the total species of Korean scleractinians are 66.7% and 33.3% respectively. But borial forms are not distributed in Korean waters.

Numbers of species in relation to regions and distribution forms are shown in Table 5. The largest numbers of species (66.7%) occur in the Cheju Island area, and most of the species (12 spp.) in this region are tropical forms. But in the Yellow Sea and the Korea Strait, the number of species of temperate zone forms are greater than that of tropical forms.

The distribution forms occurring only in one region are shown in Table 6. The Cheju Island area is a unique region because the percentage to the total species occurring in the Cheju Island area is very high, 87.5% as compared with these of the others, and 11 species among them are the tropical forms. The lesser numbers of species occur in the Korea Strait and the East Sea, and there are no species of scleractinian in the Yellow Sea.

The number of species occurring in the paired regions simultaneously and community coefficients are shown in Table 7. The value between the Korea Strait and the East Sea is the highest, 0.596, and next highest is between the Korea Strait and the Yellow Sea, 0.577. the value between the Cheju Island area and the Yellow Sea and the number of species occurring in both regions simultaneously are the lowest, 0. Therefore, these aspects of the distribution of Korean scleractinian species seem to coincide with the environmental conditions of Korean waters.

Table 3. Distribution of scleratinian species in relation to regions and geographical distribution forms.

Species \ Regions and Geographical Distribution Forms	Regions				Distri. Form		
	East Sea	Korea Strait	Cheju Island	Yellow Sea	Tropical	Temperate	Boreal
Psammocora profundacella			+		+		
Montipora trabeculata			+		+		
Alveopora japonica			+			+	
Culicia japonica		+	+			+	
Oulangia stokesiana miltoni		+		+		+	
Caryophyllia japonica	+	+	+		+		
Cyathoceras niinoi		+				+	
Heterocyathus aequicostatus		+		+	+		
H. japonicus	+	+			+		
Stephanocyathus spiniger			+		+		
Desmophyllum insignis			+		+		
Goniocorella dumosa	+				+		
Flabellum distinctum			+		+		
F. rubrum			+		+		
F. transversale		+			+		
Dendrophyllia arbuscula			+		+		
D. boschmai			+			+	
D. boschmai cyathohelioides			+			+	
D. cribrosa	+	+				+	
D. florulenta			+		+		
D. micranthus			+		+		
Tubastraea aurea			+		+		
T. coccinea			+		+		
Rhizopsammia minuta mutsuensis	+	+		+		+	
Total No. of Species	5	9	16	3	16	8	0

Table 4. Numbers of species of relation to distribution forms

Distribution form	Tropical form	Temperate zone form	Boreal form	Total
Number of species	16 (66.7%)	8 (33.3%)	0 (0%)	24

Table 5. Numbers of species in relations to regions and distribution forms

Regions \ Distri. form	Tropical form	Temperate zone form	Boreal form	% to the total species
East Sea	3	2	0	20.8 (5/24)
Korea Strait	4	5	0	37.5 (9/24)
Cheju Island	12	4	0	66.7 (16/24)
Yellow Sea	1	2	0	12.5 (3/24)

Table 6. Numbers of species of distribution forms occurring only in any one regions

Regions \ Distri. form	Tropical form	Temperate zone form	Boreal form	% to the total species occurring in each region
East Sea	1	0	0	20.0 (1/5)
Korea Strait	1	1	0	22.2 (2/9)
Cheju Island	11	3	0	87.5 (14/16)
Yellow Sea	0	0	0	0 (0/3)

Table 7. Numbers of species occurring in both regions simultaneously of every pair of four regions and community coefficients (r)

Regions	East Sea	Korea Strait	Cheju Island	Yellow Sea
East Sea		4	1	1
Korea Strait	0.596		2	3
Cheju Island	0.112	0.167		0
Yellow Sea	0.258	0.577	0	

Community coefficient: $r = C\sqrt{S1.\ S2}$ (Kim et al., 1970).

C: the number of species occurring in both regions simultaneously.

S1, S2: the number of species occurring only in each region of pair.

ABSTRACT

The stony corals known from Korean waters are 24 species, 15 genera, 7 families in 5 suborders, of which 7 species are newly recorded to the Koean scleractinian fauna: *Montipora trabeculata, Oulangia stokesiana miltoni, Goniocorella dumosa, Dendrophyllia arbuscula, D. boschmai cyathohelioides, D. micranthus,* and *Rhizopsammia minuta mutsuensis.*

They were collected from 35 localities of southern Korea from 1969 to 1986.

For the geographical analysis, the coastal waters of Korea are divided into four regions: the Yellow Sea, the Korea Strait, the Cheju Island area and the East Sea (Sea of Japan). These are based on the species diversity, the geographical distribution form, and the community coefficient. Korean scleractinians consist of 8 temperate zone forms (33.3%, Te) and 16 tropical forms (66.7%, Tr). Concerning the distribution in each region, 3 spp. (2 Te, 1Tr) occur in the Yellow Sea, 9 spp. (5 Te, 4 Tr) in the Korea Strait, 16 spp. (4 Te, 12 Tr) in the Cheju Island area and 5 spp. (2 Te, 3 Tr) in the East Sea. The community coefficient between the Korea Strait and the East Sea is the highest (0.596), and that between the Yellow Sea and the Cheju Island area is the lowest (0).

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Explanation of Plates 1-3

Plate 1 (scale bar = 1 cm)

Fig. 1. *Montipora trabeculata.*

Fig. 2. *Oulangia stokesiana miltoni,* two specimens.

Fig. 3. *Goniocorella dumosa,* two colonies.

Fig. 4. *Dendrophyllia arbuscula.*

Fig. 5. *Rhizopsammia minuta mutsuensis.*

Fig. 6. *Dendrophyllia micranthus.*

Figs. 7-8. *Dendrophyllia boschmai cyathohelioides.*

7, a colony; 8, enlarged polyps.

Plate 2 (×7)

Fig. 1. *Montipora trabeculata.*

Figs. 2-3. *Oulangia stokesiana miltoni.*

Figs. 4-7. *Goniocorella dumosa.*

4-5, a parent polyp; 6-7, a young polyp.

Plate 3 (×7)

Fig. 1. *Dendrophyllia arbuscula.*

Fig. 2. *Dendrophyllia micranthus.*

Figs. 3-6. *Rhizopsammia minuta mutsuensis.*

3-4, a small polyp; 5, a large polyp; 6, a polyp with tentacles.

PLATE 1

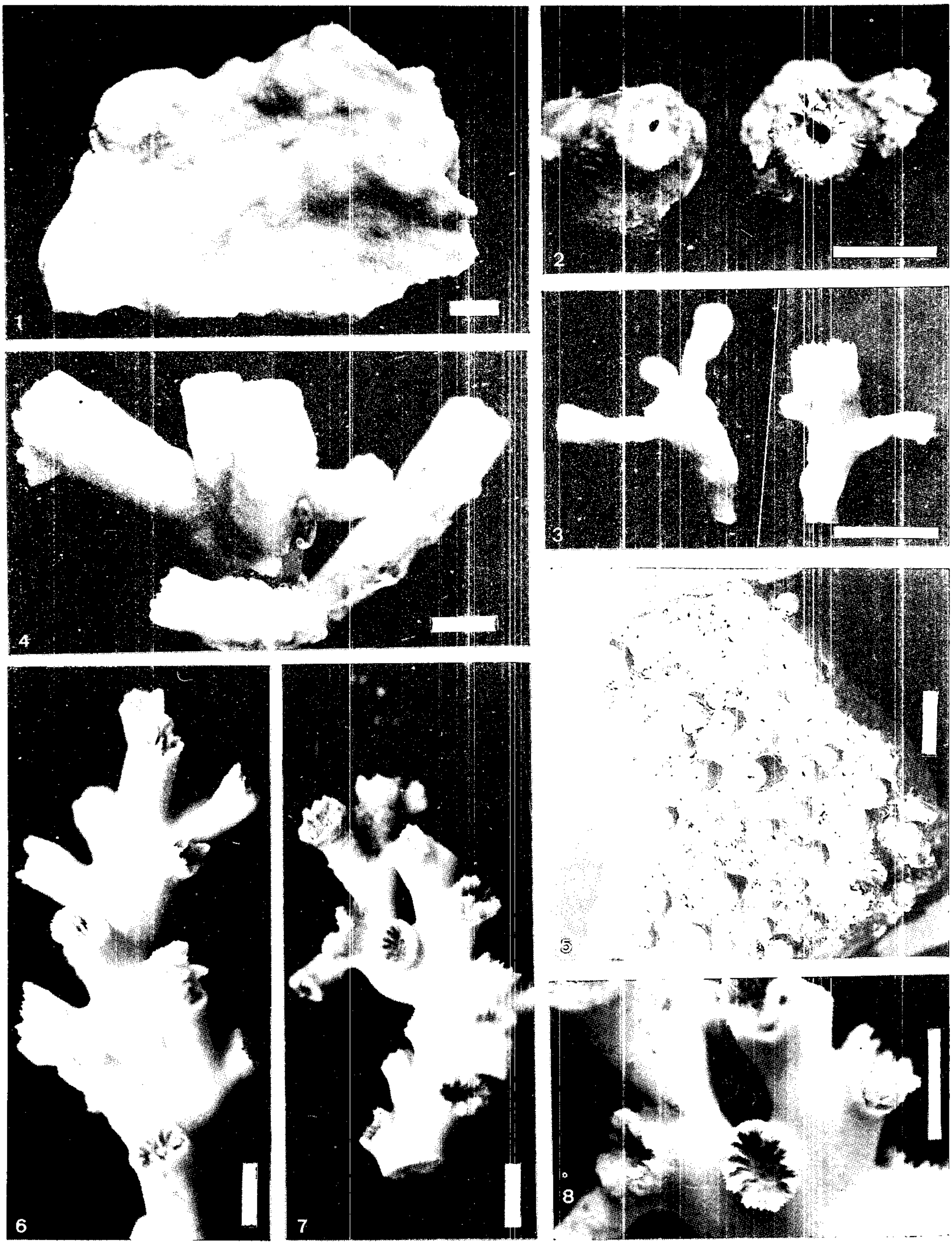


PLATE 2

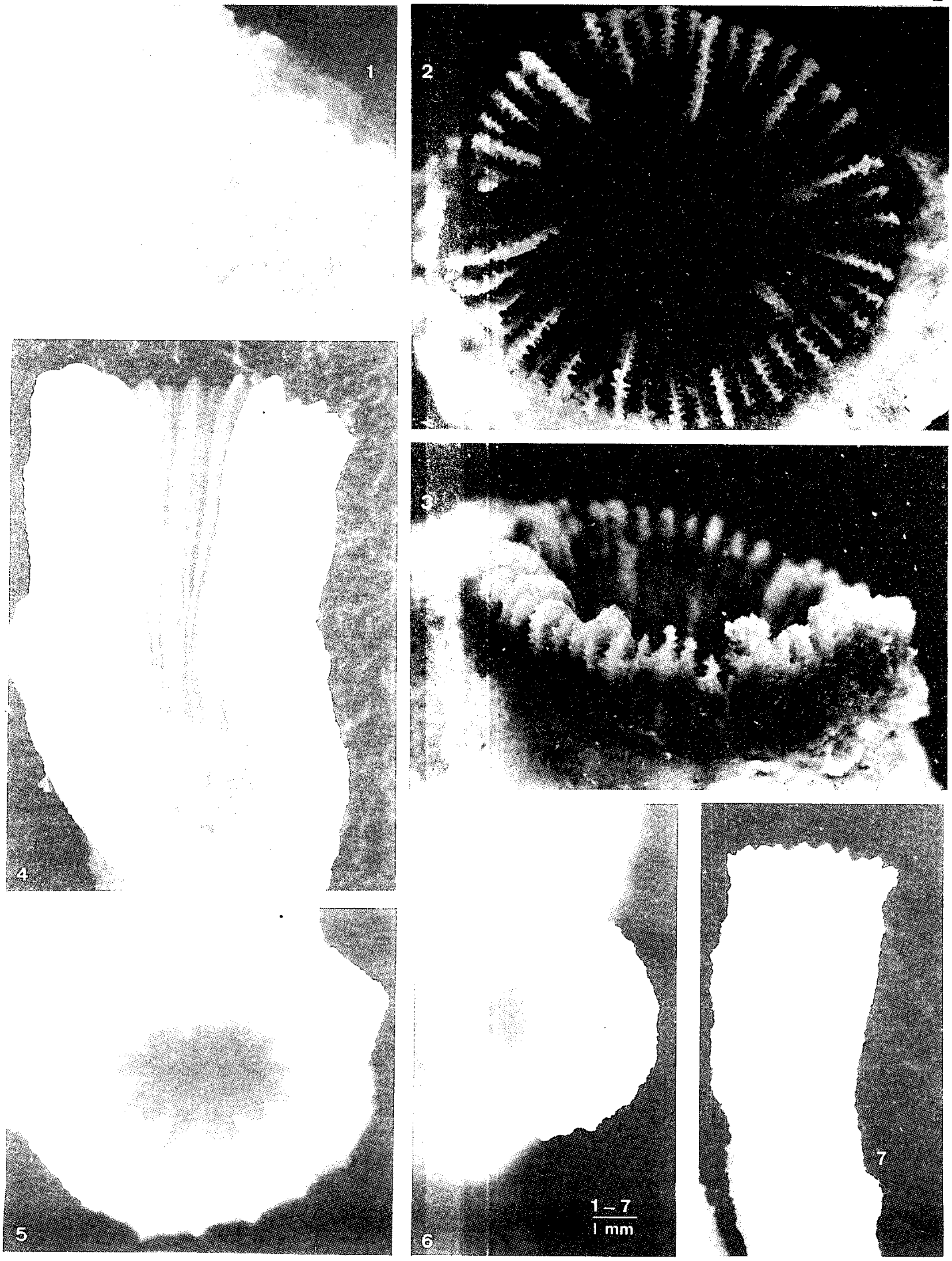


PLATE 3

